

IN THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Currently amended) A computer-implemented method for identifying a file system element for restoration comprising:

receiving a request to restore a file system element;

determining an offset, from a beginning of a collection of records, indicating where a record associated with the file system element is located within the collection of records, wherein the record includes metadata that identifies one or more locations of data blocks on storage that comprise the file system element; [[:]]

~~the record includes metadata related to stored data to be used to restore the file system element; and~~

~~the offset varies in accordance with the lengths of other records in the collection of records, if any, that are located before said record; and~~

using the determined offset to retrieve the record from the collection of records on a storage device; and

restoring the file system element by accessing the data blocks that comprise the file system element from storage at the one or more identified locations.

2. (Previously presented) The method of claim 1, further comprising determining the type of file system element being restored.

3. (Previously presented) The method of claim 2, wherein a most significant bit indicates the type of file system element being restored.

4. (Original) The method of claim 3, wherein the most significant bit is stored in a table.

5. (Cancelled)

6. (Previously presented) The method of claim 2, wherein a file metadata file includes a collection of records for file system objects that are files.

7. (Cancelled)

8. (Previously presented) The method of claim 2, wherein a directory metadata file includes a collection of records for file system objects that are files.

9. (Cancelled)

10. (Currently amended) The method of claim 1, wherein the metadata further includes at least one of the following: administrative information, permissions, or a value that uniquely identifies the file system element associated with the file system element.

11. (Cancelled)

12. (Cancelled)

13. (Previously presented) The method of claim 1, wherein the record is a first record and determining an offset includes retrieving a second record associated with the file system element being restored, that includes the offset of the first record.

14. (Original) The method of claim 1, wherein the offset is stored in a table.

15. (Cancelled)

16. (Cancelled)

17. (Original) The method of claim 1, further comprising determining a second offset of a second record associated with the record.

18. (Original) The method of claim 1, wherein the association of the record with the file system element occurs via an inode.

19. (Previously presented) The method of claim 1, wherein the association of the record with the file system element occurs via a value that uniquely identifies the file system element.

20. (Currently amended) A system for identifying a file system element for restoration comprising:

a processor configured to:

receive a request to restore a file system element;

determine an offset, from a beginning of a collection of records, indicating where a record associated with the file system element is located within the collection of records, wherein the record includes metadata that identifies one or more locations of data blocks on storage that comprise the file system element; [[:]]

~~the record includes metadata related to stored data to be used to restore the file system element; and~~

~~the offset varies in accordance with the lengths of other records in the collection of records, if any, that are located before said record; and~~

use the determined offset to retrieve the record from the collection of records; and

restore the file system element by accessing the data blocks that comprise the file system element from storage at the one or more identified locations; and

a storage device on which the collection of records is stored.

21. (Currently amended) A computer program product for identifying a file system element for restoration, the computer program product being embodied in a computer readable medium and comprising computer instructions for:

receiving a request to restore a file system element;

determining an offset, from a beginning of a collection of records, indicating where a record associated with the file system element is located within the collection of records, wherein the record includes metadata that identifies one or more locations of data blocks on storage that comprise the file system element; [[:]]

~~the record includes metadata related to stored data to be used to restore the file system element; and~~

~~the offset varies in accordance with the lengths of other records in the collection of records, if any, that are located before said record; and~~

~~using the determined offset to retrieve the record from the collection of records; and~~

~~restoring the file system element by accessing the data blocks that comprise the file system element from storage at the one or more identified locations.~~

22. (Previously presented) The method of claim 1, wherein the record has a variable length.

23. (New) The method of claim 1, wherein:

receiving the request includes receiving a path, which includes a root, to the file system element within a file system; and

determining the offset includes:

accessing a root record associated with the root; and

in the event there is a next path element in the path after the root, determining from the accessed root record an inode number of the next path element.

24. (New) The system of claim 20, wherein:

the processor is configured to receive the request by receiving a path, which includes a root, to the file system element within a file system; and

the processor is configured to determine the offset by:

accessing a root record associated with the root; and

in the event there is a next path element in the path after the root, determining from the accessed root record an inode number of the next path element.

25. (New) The computer program product of claim 21, wherein:

the computer instructions for receiving the request include computer instructions for receiving a path, which includes a root, to the file system element within a file system; and

the computer instructions for determining the offset include computer instructions for:

accessing a root record associated with the root; and

in the event there is a next path element in the path after the root, determining from the accessed root record an inode number of the next path element.

26. (New) The method of claim 1 further comprising determining a type of file system element being restored, wherein in the event the file system element is a directory: the components of the file system element include one or more children of the directory, the record identifies the children of the directory, and restoring the file system element includes adding the children of the directory identified by the record to a list of file system elements to be restored.

27. (New) The system of claim 20, wherein the processor is further configured to determine a type of file system element being restored, wherein in the event the file system element is a directory: the components of the file system element include one or more children of the directory, the record identifies the children of the directory, and the processor is configured to restore the file system element by adding the children of the directory identified by the record to a list of file system elements to be restored.

28. (New) The computer program product of claim 21 further comprising computer instructions for determining a type of file system element being restored, wherein in the event the file system element is a directory: the components of the file system element include one or more children of the directory, the record identifies the children of the directory, and restoring the file system element includes adding the children of the directory identified by the record to a list of file system elements to be restored.

INTERVIEW SUMMARY UNDER 37 CFR §1.133 AND MPEP §713.04

A telephonic interview in the above-referenced case was conducted on June 15, 2009 between the Examiner and the Applicants' undersigned representative. The Office Action mailed on March 16, 2009 was discussed. Specifically, the rejections of claims 1 and 20 – 21 in light of St. Pierre et al. and the proposed amendments set forth herein were discussed with the intent to place the claims in better condition for allowance or appeal.

The Applicants wish to thank the Examiner for the interview.